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ABSTRACT

This compilation of research in agricultural education contains abstracts of 13 studies completed during 1971-72 in the Pacific Region. Studies are ordered and presented alphabetically by author and include the purpose, methodology, and findings. Eleven studies are on master's degree research, one is on doctoral research, and one is a staff study. (Author/SN)

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Departmental Report No. 40

SUMMARIES OF STUDIES

IN

AGRICULTURAL EDUCATION

PACIFIC REGION

1971-72

An Annotated Bibliography of Studies in Agricultural Education

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INTRODUCTION

This compilation includes thirteen studies in Agricultural Education completed during 1971-72 in the states of the Pacific Region.

The compilation of abstracts is an activity of the Research Committee of the American Vocational Association.

Elwood M. Juergenson was Pacific Region Representative and James T. Horner was Research Committee Chairman, Agricultural Education Division, AVA.

December 1972

SUMMARIES OF STUDIES, 1971-72

1. BAUGH, Frank A. An Analysis of Two-Year, Post Secondary Programs of Animal Technology in the United States. Doctoral Thesis, Ph.D., 1972. Colorado State University, Fort Collins.

Purpose. The purpose of this study was to locate and collect and analyze data on curricula, facilities, equipment and objectives of all two year programs in the field of animal health.

Method. Programs were located by correspondence with the following: American Veterinary Medical Association; American Association for Laboratory Animal Science; state directors for vocational-technical education; and the United State Office of Education. The existence of each program mentioned was verified by correspondence with its director. These programs became the population for the study.

The director of each program verified was contacted and requested to send a copy of his curriculum and course description of each technical course and also complete a questionnaire. The questionnaire was used to determine facilities and equipment available for use in the program and technical skills taught. To determine the relative importance of selected equipment, facilities and skills for two different training objectives, each program director was asked to assign a value of importance from three to zero to each item, one for training veterinary assistants and the other for training laboratory animal technicians. A frequency, percent frequency, mean and standard deviation was computed for responses to each item.

The curricula were compared by converting all credits to quarter-hour credits and breaking curricula down into four categories: Total credit hours; credit hours in general education; credit hours in science and math; and credit hours in technical courses. Frequencies, percent frequencies, means and standard deviations were computed for each category. Most commonly required courses in each category were listed and frequency and percent frequency computed.

Findings. The following were the major findings of the study.

1. There were fifteen public, two-year, post-secondary programs in animal technology in the United States during the 1971-72 school year.

2. Most programs had two or more job training objectives.

3. Most programs had a common curricula for all training

objectives and did not provide options within the curricula for different objectives.

4. Veterinary assistant for small animal practice was the most frequent objective followed closely by laboratory animal technician.

5. The existing programs in animal technology are relatively new. The mean years of existence being 4.2 years.

6. Curricula varied little in credit hours required.

7. Most programs showed a balance between general education, science and mathematics, and technical courses required.

8. All curricula were designed with the help of advisory committees.

9. There was very little variation between the directors' opinions concerning degree of importance of selected equipment, facilities, and skills for training veterinary assistants.

10. There was a great deal of variation between directors' opinions concerning the degree of importance of selected equipment, facilities, and skills for training laboratory animal technicians. This could indicate that many program directors are not as familiar with the training needs of laboratory animal technicians as they are with those of veterinary assistants.

11. Little has been done on a state or national basis to set up accrediting procedures for programs or licensing or registration procedures for graduates.

2. BLACKWELL, Garrett Eugene Jr. Guidelines for Developing Educational Programs Effecting Range Cattle Feed Conditions on the Papago Reservation. Report, Masters of Agricultural Education, 1972. Department of Agricultural Education, University of Arizona, Tucson.

Purpose. To develop guidelines for developing and conducting educational programs for Papago stockmen and youth designed to help them improve their range feed situation for cattle on the Papago Reservation.

Method. Personal interviews were conducted with sixty Papago stockmen. An interview schedule was employed to assess awareness and utilization of approved range management practices and to solicit opinions. The sixty Papago stockmen were divided into a random and a select group in order to determine the relationship between responses from typical Papago stockmen and progressive Papago stockmen.

Findings. Thirteen practices for practical range cattle production, appropriate for the Papago Reservation were identified.

Respondents' awareness of these practices was greater than their use of these practices.

There was a substantial variation in both awareness and use of the thirteen practices by Papago stockmen.

Water development was the range improvement practice with which Papago stockmen were most familiar and concerned.

Even though Papago stockmen were unaccustomed to having their opinions solicited, response definitely indicated they considered water and livestock control as major problems.

Papago stockmen do not see themselves as "do-it-yourselfers" in making range improvement capital investments.

The Papago cattle industry is still a family affair. Many did not know how many cattle they own. Over fifty percent did not know how many calves their cows produced. Two-thirds work with their cattle once a month or less frequently. About one-half sell cattle or buy feed as adjustment to drought.

Meetings and personal contact were preferred methods of getting information to Papago stockmen. Involvement of youth was important to Papago stockmen as a means to improve the adoption of approved cattle production practices.

Both random and select groups recognized the same problems and concerns but evaluated them somewhat differently The select group tended to have more cattle, be more active in livestock matters and were more accessible.

Guidelines for educational programs for Papago stockmen and youth should involve both; focus on major problems as identified by them; be practical in terms of resources; consider local vaues and customs; include emphasis on management and personal responsibility; utilize acceptable teaching media; and utilize teachers with patience and persistence.

3. BROSTEN, Einar. An Evaluation of the Public Information and Student Recruitment Program at the Helena Vocational Technical Center. Masters Report, M.S. 1972. Department of Agricultural and Industrial Education, Montana State University, Bozeman.

Purpose. The purpose of this study was to evaluate the effectiveness of each of the sources of public information and student recruiting used by the Helena Vocational Technical Center and make recommendations for changes based on the finding.

Findings. Most students learned about the Helena Vocational Technical Center during their junior and senior years in high school. Friends, former students, high school counselors, teachers and principals are good sources of information about the school. However, the Center brochure and currently enrolled students have the most influence on student's decisions to attend the Helena Center.

Nearly 60 percent of the students enrolled at the Center had seen the brochure and 48 percent of these rated the publication as an effective information source. Fifty-seven percent of the students surveyed had attended a career orientation session given by a Center representative. More than half of the students surveyed had visited the Center before enrolling. Finally, over 50 percent of the students favorably influenced by the curriculum offered.

4. BURNS, Willie J. Employment Opportunities For Forestry Technicians in Southeast Arkansas. Masters Report, 1972. Colorado State University, Fort Collins.

Purpose. To determine if a need existed in Southeast Arkansas for implementing a forestry technician training program. The Study also attempted to provide information relative to the current employment opportunities and projected needs for the next five years in the forestry industry at the technician level of employment.

Method. The data were secured by personal interviews and the completion of a questionnaire from twenty-nine federal and state governmental agencies and private industries located in Southeast Arkansas.

Findings. There were a total of 304 technicians employed in the 29 agencies surveyed. Two hundred seventy-six or 90.8 percent of the personnel were full time male employees.

Two hundred nine or 68.8 percent of these technicians were employed in the categories of wood products logging and milling, inspection, management and fire control.

The projected needs for new jobs, including turnover and replacement of trained technicians in 1976, was 191 or a 37.2 percent increase over the present situation.

The approximate number of employees needed for new jobs and replacements in 1970 was seventy-six or 25.0 percent of the total persons then employed.

New employees at the technician level were secured from formal in-service training, private referral, colleges, universities, and high schools. The study further indicated that none of the employers solicited the services of the State Employment Service.

Of the employees interviewed, 85.7 percent indicated that they were currently providing pre-service or in-service training for their technicians.

Twenty or 69.0 per cent of the industries and agencies indicated that they would support a training program. These 20 agencies employed 93.0 percent of all the technicians employed by the surveyed agencies in 1971. They also indicated that they anticipated employing 75.0 percent of those needed by 1976.

Eighty-nine percent of the industries and agencies indicated that they provided fringe benefits for technician level employees.

The average salary range for a newly trained technician in Southeast Arkansas was $5,000 to $5,500 per year.

The categories of employment having the greatest needs were management, wood products, logging and milling, and inspection.

5. CAVEY, Mike. Identification of Characteristics of Successful Vocational Agriculture Education Programs For Disadvantaged Students. Masters Report, M.S. 1972. Department of Agricultural and Industrial Education, Montana State University, Bozeman.

Purpose. The purpose of this study was to examine Vocational Agricultural Education programs throughout the nation, to identify characteristics of successful programs in terms of teacher attitudes and training, class size, follow-up, advisory councils, leadership training and other characteristics that may be identified during the course of the study.

Findings. Schools with less that 200 students had the highest percentage of disadvantaged students. The lowest number of disadvantaged students were reported in schools with 1,000 to 1,500 students. More than 25 percent of the 1971 graduates reported were considered disadvantaged and 26.95 percent of the 1971 graduates were considered disadvantaged. Of the 1970 disadvantaged graduates reported, 17.48 percent were in further training as were 21.65 percent of the 1971 disadvantaged graduates.

Less than one-half, 40.85 percent, of the schools had special classes in Vocational Agriculture for disadvantaged students only. Of the instructors surveyed 33.80 percent spent less than 20 percent of their time with disadvantaged students.

In 64.71 percent of the schools surveyed over 80 percent of the students received work experience or cooperative training. Over one-half, 69.57 percent, of the schools surveyed use land laboratories in their program for disadvantaged students. Over 70 percent of the schools used advisory councils.

6. COLE, Richard Lee. Job Opportunities in the Ornamental Horticultural Industry for Students of Vocational Agriculture. Thesis, Ed.M., 1973. Oregon State University, Corvallis

Purpose. This study seeks to identify six characteristics of job opportunities in the ornamental horticultural industry:

(1) Present and estimated future jobs.
(2) Entry level qualifications in regard to age and education.
(3) Entry level wage.
(4) Number of cooperative work experience stations.
(5) Competencies needed by employees.
(6) If an agricultural background is beneficial.

Method. Interview 45 employers in the ornamental horticultural industry in the study area.

Findings.

(1) There will be a large number of jobs.
(2) Preferred entry age is 18 to 20. Education preferred is high school education.
(3) Entry level wage averaged $2.02 per hour for part time and 2.24 per hour for full time employment.
(4) Eighty-nine percent of the employers are willing to provide work experience stations.
(5) Competencies deemed most valuable were: (1) personal relations (2) communications (3) plant science knowledge (4) mechanical knowledge. (All were broken down into specific competencies within the above headings)
(6) Ninety-six percent of the employers felt an agricultural background was valuable to potential employees.

7. COUMBS, George Lee. A Study of Curriculum Selection in Two Selected Schools and Its Relationship to Occupational Choice. Thesis, M.S., 1972. Library, Washington State University, Pullman.

Purpose. This study was an attempt to determine what role schools have in determining and assisting their graduates in gaining occupational entrance. Since the 1963 Educational Acts, considerable effort has been expended to meet this major educational objective. Two areas of consideration within this study are: (1) identifying curriculum changes on high school transcripts, and (2) determining if curriculum changes affect the graduates' aspirations and occupational roles.

Method. The selection of the schools and communities to be used for this study was made primarily on the geographic, economic, and size factors. Two small class A districts, Newport and Selkirk, were selected because of thier geographic and economic similiarities.

School transcripts and yearbooks were used to collect data for determining curriculum patterns of 200 graduates from the two schools in 1965 and 1971. Personal interviews with school personnel and community adults provided additional information on each of the graduates. The high school transcript was used as an indicator of the student's occupational interests.

Findings. This study indicated that high school students respond to changes in the curriculum and that the academically lower half of the class responds to a greater extent than the upper half. Most high school students have established areas of interest from which they choose the most closely related courses.

The study found that expanding the curriculum had a tendency to: (1) increase student grouping (2) decrease extracurricular activities and (3) broaden the avenues of occupational entrants but did not affect the occupational choice. The data indicated that about one-half of the credits earned by the graduates were in the academic areas of English-Language Arts, Social Studies, and Math and Science. Approximately one-half of the graduates possessed the academic background and grade achievement to be categorized as college oriented. Approximately 70 percent of the Newport students and 50 percent of the Selkirk students so categorized attempted a college program. The study did not identify any patterns that deviated from the occupational choice theories which are generally accepted today.

8. EKEGREN, Woodrow Arthur. A Study of Montana's Agricultural Occupational Opportunities. Masters Report, M.S., 1972. Department of Agricultural and Industrial Education, Montana State University, Bozeman.

Purpose. The purpose of this study was to accomplish a comprehensive and state-wide study to determine the nature and extent of employment opportunities in agribusiness and production agriculture.

Findings. Twenty percent of the responding businesses indicated that there was one or more vacancies within their firm. Approximately one-half of all businesses identified themselves as falling into the USOE Classification of agricultural supplies and services. Nearly one-half of the businesses reporting vacancies were also in this category while reporting 41 percent of all vacancies.

Agricultural Mechanics was the classification indicating the largest rate of vacancy, compared to returns. Service positions, within this classification accounted for the largest single area of future employment need for all categories of all classifications. Sales and skilled positions in agricultural supplies and services were second and third, respectively.

Over 60 percent of the firms reporting indicated that agricultural experience is beneficial for satisfactory employment. Unavailability of trained personnel was pointed out as the main reason why vacancies existed.

9. LOREEN, C. Oscar. An Evaluation of the Agricultural Education Curriculum at Washington State University. Non-thesis, Departmental Study, 1971. Agricultural Education, Washington State University, Pullman.

Purpose. The major purpose of the study was to discover from several sources how well the teacher preparation program in Agriculture at Washington State University has been serving its function. An attempt was made to identify the strengths of the program and also the areas where improvement was needed.

Method. The population consisted of three groups: teachers, fifth-year Agricultural Education majors, and supervising teachers. A different questionnaire was prepared for each of these three groups. Only teachers who had qualified to teach in the years 1961 through 1969 were included in the population and a sample of 74 was drawn from this list. Twenty fifth-year students who qualified in 1970 and 1971 were included and the opinions of 14 supervising teachers were solicited through questionnaires.

Findings. Nearly all of the Agricultural Education majors at WSU have studied Agriculture while attending high school.

Students ranked 77 percent of the 38 required courses above the mid-point of a ten point rating scale on predicted usefulness. The three courses rated most useful were: Ed 407, Student Teaching; Ag Mech 201, Metal Shop; and Agronomy 101, Field Crops. Eighty percent of the students felt that there was sufficient freedom of choice in the selection of their courses. Students indicated that a slight change in emphasis in the overall curriculum is needed by increasing technical agriculture and reducing professional education. Eighty-five percent of the students favored the five-year program.

Teachers mentioned most often that greater depth is needed in ornamental horticulture, horticulture, animal sciences, agricultural mechanics and forestry. Teachers expressed a favorable response to all of the 37 generally required courses except three. Sixty percent of the teachers thought the twelve-week student teaching period about the right length. Thirty-two percent thought it was too short, and 22 percent that it was too long. Sixty-four percent of the supervising teachers felt that the present twelve-week student teaching period was about right in length. There are items in the areas of guidance, counseling and job placement that need attention, according to respondents.

The results of this study indicated that a generally favorable attitude toward courses in the program of Agriculatural Education at WSU prevailed among the students and teachers included in the study. It is clear that students and teachers who participated while affirming most of the aspects of the program, gave strong indications of aspects that needed study and possible change.

10. MCCALL, Dale E. Employment Needs and Implications for Educational Programs for Production Agriculture Workers in Colorado. Masters Report, M.Ed., 1972. Library, Colorado State University, Fort Collins.

Purpose. To determine the employment needs and implications for education programs for production agriculture workers in Colorado.

Method. Data for this study were secured by means of mailed questionnaires and personal interviews administered to 91 farmers and ranchers in Colorado.

Findings. Eighty-six percent of the farmers and ranchers responding in this study were in production agriculture, owned all or part of the land used and only 8.8 percent rented most of the land used in their operation.

The majority of the respondents were involved in two types of farming: either cash grain farming or general diversified farming.

The 91 respondents anticipated a need for 111 full-time workers by 1973. A projected need of 15,225 full-time workers would be needed annually by 1973. Using a 10-year average, there appeared to be a need for 14,795 additional trained persons.

In the part-time production agriculture worker categories an anticipated need can be projected that there will be a possible need of 71,538 part-time workers by 1973. By subtracting a total of 48,841 currently employed, there appeared to be a possible need for an additional 9,810 part-time workers by 1973.

The starting salary rates for full-time production agriculture workers varied considerably. For example, monthly salary rates varied from $250.00 to $537.50, and yearly salary rates varied from $6,000 to $10,000.

The starting salary rates for part-time production agriculture workers varied somewhat with hourly salary rates varying from $1.70 to $2.50 and monthly rates varying from $250.00 to $425.00.

There was a high degree of need for instruction for production agriculture workers expressed by the respondents in all areas of instruction in livestock breeding and fattening subjects except fitting and showing.

A high degree of need of instruction for production agriculture workers was expressed by the farmers and ranchers in the following crop production areas: controlling insects and pests, seedbed preparation, planting, harvesting, fertilization, irrigation methods and practices, controlling weeds, tillage methods and practices, and cultivation.

In the farm and ranch management area, a high degree of need was expressed in the areas of record keeping systems, determining livestock yields and efficiency, farm budgeting and financial planning, and income tax management.

The main areas of instructional needs for production agriculture workers in agricultural mechanics indicated by the 91 Colorado farmers and ranchers were arc and oxy-acetylene welding, farm machinery and equipment overhaul, home farm shop, farm carpentry, farm fencing, use of the farm level in surveying, and basic electricity and motors.

Based upon this sample there appeared to be a need for more trained persons to fill part and full-time productions agriculture vacancies and anticipated needs in the northeastern, southeastern and north central areas of the state.

11. OADES, John Douglas. Agricultural Mechanics Competencies Needed by Vocational Agriculture Graduates in Jefferson County. Thesis M.Ed., 1973. Library, Oregon State University, Corvallis.

Purpose. The objectives of this study were to: Identify commonly used agricultural mechanics competencies. Give priority to the competencies by placing them in rank order. To classify the competencies as being "essential", "nice to know," or "unnecessary." To place the 6 occupational specialty courses within agricultural mechanics in the above classifications, and in a rank order.

Method. The methods of study used to meet the above objectives were: Primarily through a survey delivered to ten percent of all full-time farmers and agribusinessmen in Jefferson County, Oregon. This survey ranked and classified some 83 common agricultural mechanics competencies. It also compiled additional competencies considered useful by agriculturalists in the county. Review of related graduate studies, professional journals, "career cluster concept" materials, recent agricultural mechanics texts, and Oregon's "Occupational Cluster Guide for Agriculture," each helped meet the study objectives.

Findings. That of 83 competencies surveyed, 47 were classified "essential" 27 "nice to know" and 9 "unnecessary." That agricultural mechanics instruction should be based upon coverage of "essential" competencies first, "nice to know" competencies as time allows, "unnecessary" competencies only in cases of special need, and that rank order of these competencies be considered in instructional planning. That the 6 specialty courses within agricultural mechanics be offered in rank order (Power Machinery, Shopwork, Soil and Water, Electricity, and Buildings and Conveniences). That some 32 additional competencies were identified, adding local relevance to the study. That all instruction in Vocational Agriculture could be made more relevant by use of national, state and especially local surveys.

12. OMDAL, Stanley. An Examination of State and Federal Support of Vocational Education in Thirty Selected High Schools in the State of Washington During the 1970-71 School Year. Thesis, M.S., 1972. Library, Washington State University, Pullman.

Purpose. The purpose of this study was to determine the amount of funds from federal and state sources allocated to vocational education in thirty selected high schools in the State of Washington for the 1970-71 school year. It was also the purpose to determine the amount of money that was spent on vocational education for the 1970-71 school year according to each school's reports.

Method. The sample was taken of the school districts in the State of Washington that had two or more vocational programs in operation. Schools located in these school districts that had two or more vocational programs were divided into three groups: the large, the medium, and the small. From the three lists compiled, every fifth school was included in the sample. Thirty schools comprised the sample. Data for this study were secured in the Vocational Education Office of the Superintendent of Public Instruction in Olympia.

Findings. Ten of the thirty school districts in this study spent less in their vocational education programs than the income they received from the guaranteed basic support, the weighted vocational support, and the federal funds allotted to them during the 1971-72 school year.

The average cost per FTE student in the thirty schools was $1,063, which is over $400 more than is needed per FTE student for the state to allow the additional weighting for documenting excess costs for new vocational classes.

Federal vocational funds accounted for 6.4 percent of the total expenditures for these thirty schools. Allocation of federal funds were so small to several school districts in the study that their impact was of little value.

13. SCHLICHTING, Harley O'Dean. Identifying the Professional and Technical Needs of Post-Secondary Teachers of Agriculture. Masters Report, M.S. 1972. Department of Agricultural and Industrial Education, Montana State University, Bozeman.

Purpose. The purpose of the study was to identify the pre-service courses in the agricultural education curriculum which best meets the needs of a post-secondary teacher of agriculture and to identify the educational and employment background of the present post-secondary agriculture instructor.

Findings. Post-secondary agriculture instructors have a strong background in Agricultural Education, with 54 percent B.S. and B.A. degrees and 64 percent of the M.S. and M.A. degrees held by the post-secondary instructors being in Agricultural Education. The respondents listed part-time or full-time business or industrial work experience in their background. Classroom and laboratory responsibilities received the highest percent of the instructors professional attention. Teaching Adults and/or Young Farmer courses was the responsibility of only 22 percent of the post-secondary instructors. The basic agricultural science courses and agricultural education courses received the highest rating while general education courses were rated lower.

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*The summaries are arranged alphabetically by author and numbered consecutively. Numbers refer to the number of the study rather than to page numbers. Eleven studies were on Master's degree research, one was on doctoral research and one was a staff study.